

II. AMENDMENT TO THE DRAWINGS

The original application includes twenty four drawings. New **FIGS. 25 to 28** were previously added to comply with the provisions of 37 CFR 1.83(a), which require the drawings to show every feature of the invention specified in the claims. New **FIGS. 25, 27 & 28** are now amended as follows to be in full compliance with said provisions of 37 CFR 1.83(a):

1. The sphere and cube devices indicated in new **FIG. 25** are being amended to show a feature of the invention that enables a player to vary the level of difficulty of play. A replacement drawing for **FIG. 25** is attached.
2. The LCD device indicated in new **FIG. 27** is being amended to show a feature of the invention that enables a player to vary the level of difficulty of play. A replacement drawing for **FIG. 27** is attached.
3. The alternate embodiment that interfaces with an external video monitor indicated in new **FIG. 28** is being amended to show a feature of the invention that enables a player to vary the level of difficulty of play. A replacement drawing for **FIG. 28** is attached.

REMARKS

Reconsideration of the above-identified application in view of the amendments to the specifications, drawings, and claims above and the remarks following is respectfully requested.

Claims 1-82 were originally in this application. Claims 1-82 were cancelled, and Claims 83-127 were added in the previous amendment dated May 27, 2005. Claims 97 & 106 were cancelled, and new claims 128 & 129 were added in the previous amendment dated June 10, 2006. Claim 105 has now been cancelled, and Claims 83, 84, 88, 96, 100, 109, 110, 111, 114, 115, 116, 126 and 127 have now been amended. The changes associated with these amendments are indicated in Exhibit "X" annexed hereto.

THE EXAMINER'S OBJECTION TO CERTAIN AMENDMENTS TO THE SPECIFICATION AS "NEW MATTER" HAS BEEN ADDRESSED

In the Detailed Office Action mailed on August 10, 2006, the Examiner rejected Claims 83-96, 98-105, 107-129 under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The Examiner considered a number of the applicant's amendments to the specification to be new matter. These objections have no merit and/or have been addressed in view of the following:

1. The Examiner rejected the amendments to the specifications under items 2, 8, 10 & 11, upon the ground that the terms "or the states of the routing squares," and "or the state of the associated routing square," and "or the state of the second/corresponding routing square" constitute new matter. As explained to the Examiner and the Supervisor during the interview held on October 23, 2006 (hereinafter "Interview"), the substance of the terms objected to is inherent in the specification. Items 2, 8, 10 & 11 amend the specification by explaining and clarifying that certain functions described in the specification, and which employ the two states of a bi-stable switch,

could also be implemented using the two states of an associated routing square. The switch is an external device to the microprocessor and, as such, any function that employs the status of the switch must employ the status of an internal variable or element of the software that controls the microprocessor. The internal element of the software that reflects the status or operation of an external switch is the routing square associated with that switch. The specification at column 11, lines 33-60 states:

"The Routing Square, $S_{i,j}$, shown in FIG. 2, is defined as a quad routing device which is activated by a two-position (binary) switch, $W_{i,j}$. A total of N^2 Routing Squares are provided in the logic game herein, and are arranged in a two-dimensional geometric layout. The Routing Square, $S_{i,j}$, is then described as follows:

Let

$S_{i,j}$ denotes routing square (i, j) .

$W_{i,j}$ denotes binary switch (i, j) .

$t_{i,j}$ denotes the TOP edge of $S_{i,j}$

$l_{i,j}$ denotes the LEFT edge of $S_{i,j}$

$r_{i,j}$ denotes the RIGHT edge of $S_{i,j}$

$b_{i,j}$ denotes the BOTTOM edge of $S_{i,j}$

Two nodes are connected to each edge of the square, a transmitting node (X), and a receiving node (V). The Routing Square functions as follows:

If $W_{i,j} = "1"$, then:

$b_{i,j}$ (X) CONNECTS TO $t_{i,j}$ (V).

$l_{i,j}$ (X) CONNECTS TO $r_{i,j}$ (V).

$r_{i,j}$ (X) CONNECTS TO $b_{i,j}$ (V).

$t_{i,j}$ (X) CONNECTS TO $l_{i,j}$ (V).

If $W_{i,j} = "0"$, then:

$b_{i,j}$ (X) CONNECTS TO $r_{i,j}$ (V).

$l_{i,j}$ (X) CONNECTS TO $t_{i,j}$ (V).

$r_{i,j}$ (X) CONNECTS TO $l_{i,j}$ (V).
 $t_{i,j}$ (X) CONNECTS TO $b_{i,j}$ (V)."

The above description of the routing square, as well as FIG. 2 of the '037 patent, clearly indicates that the state of the routing square reflects the state or activation of the external corresponding switch. Accordingly, it is inherent in the device described in the preferred embodiment of the '037 patent that the states of the external switch, and the states of the corresponding routing square are equivalent, and could be used interchangeably to perform the various described functions. Because this characteristic is inherent in the preferred embodiment, the specification could be amended to recite this feature, or theory (namely that the states of the routing square could be used in lieu of the states of a corresponding switch) without introducing prohibited new matter.

2. With respect to item 9, "EXCLUSIVE NOR," and as discussed at the Interview, the Court has already determined that FIG. 23 of the '037 patent discloses the "EXCLUSIVE NOR" Boolean function. In the footnote on page 14, of the Memorandum of Decision and Order, dated March 5, 2002 (See Exhibit "Y" annexed hereto), the Court determined:

"There is a substantial dispute between the parties over the Plaintiff's reference to the "INCLUSIVE OR" function. The Plaintiff admits that while the specification refers to the "INCLUSIVE OR" function, he intended to describe the operation of the "EXCLUSIVE NOR" function. Figure 23, which shows a matrix by which color codes are assigned, appears to actually apply the "EXCLUSIVE NOR" function' (emphasis added).

Similarly, Figure 24 applies the "EXCLUSIVE NOR" function to provide a matrix for the generation of color codes from operating codes for an 8 x 8 embodiment. Further, the "⊕" Boolean operator indicated in Figure 18 of the '037 patent is known in the Boolean algebra text books as the "EXCLUSIVE NOR" Boolean operator. At the interview, the Examiner agreed to withdraw his objection to item 9.

3. The amendment set forth in item 12 recites two inherent features for the device disclosed in the preferred embodiment, namely:
- i. There is almost unlimited¹ number of ways to assign the generated binary color codes or display codes to playing positions, and
 - ii. That a solution to a game, where the objective of the game is to provide the same color or image at all playing positions, is independent² of how the binary color codes or display codes are assigned to playing positions.

With or without the amendment set forth in item 12, these features are present, and inherent in the preferred embodiment of the invention. This amendment does not add any new function or describe any new structure, rather it simply recites two technical inherent facts related to the invention. Accordingly, this amendment does not constitute prohibited new matter as maintained by the Examiner.

4. During the Interview, the applicant demonstrated to the Examiner and the Supervisor a computer program that simulates the 4x4 and 8x8 embodiments described in the '037 patent. This simulation program employs the left click of a computer mouse (i.e. momentary switch) to activate a selected playing position. Further, the computer program implements the feature described in original claims 8 and 28 that vary the number of colors or images playable by the device. The Examiner acknowledge that the '037 invention could employ a momentary switch to control the device, i.e. toggle a selected routing square between its two states. However, the examiner maintained that the term "momentary switch" was not disclosed in the '037 patent, and suggested to delete such term from item 14. Item 14 has now been amended by deleting the term

¹ For the 4 x 4 embodiment, there are 8 color codes and 16 playing positions. The number of permutations of assigning 8 binary color codes to 16 playing positions is almost unlimited.

² To provide the same color or image all color codes must be the same. In such a case it does not make any difference how the color codes are assigned to playing positions.

“momentary switch,” and clarifying the fact that a switch is an external element to the microprocessor that controls the device, and that a corresponding routing square is an internal element of the software that is used to reflect the states or status of the external switch. It should be clear that by deleting the term “momentary switch,” the Applicant is relying on the ordinary meaning of the term “keypad switch.”

5. The second amendment set forth in item 14 does not incorporate new matter because this amendment is supported in the original specification. More specifically, the purpose of the second amendment to the specification set forth in item 14 is to incorporate the technical description in original claims 8 and 28 of the ‘037 patent into the written specification of the reissue application. In substance, this amendment explains a design choice that is based on an inherent characteristic of the invention. Namely, that the color codes in the 4 x 4 embodiment, for example, could be assigned to any pre-defined images or colors, or to the color reflected from the surface of a display when it is dark. The Examiner agreed that this second amendment explains indeed what constitutes a design choice, but argued that such explanation is new matter “since Applicant did not have support for this matter in the originally filed specification.”

During the Interview, the Supervisor and the Examiner agreed to withdraw the objection to the second amendment to the specification set forth in item 14 provided that the Applicant modifies the language used in said second amendment of paragraph 14 to reflect the language used in original claims 8 and 28. Original claim 8 of the ‘037 patent clearly states:

“An electronic game device as recited in claim 1 wherein each of said plurality of color codes corresponds to either each of a plurality of predetermined colors or to a dark indication.”

Similarly, original claim 28 of the ‘037 patent states:

“An electronic game device as recited in claim 1 wherein each of said plurality of display codes corresponds to either each of a plurality of predetermined images or to a blank indication.”

The second amendment to the specification set forth in item 14 has now been modified to reflect the language used by the Applicant in original claims 8 and 28 of the '037 patent. Accordingly, it is respectfully requested that the Examiner withdraws his objection to this amendment.

OBJECTION TO CERTAIN TERMS IN THE CLAIMS

In the Detailed Office Action mailed on August 10, 2006, the Examiner argued that “many of the limitations [in the claims] do not appear in the originally filed specification and are considered new matter.” More specifically, the Examiner objected to the following terms in the claims:

Claims 83, 100, 111, 126: a playfield, indicators

Claims 105, 111: a cursor control switch mechanism/structure

Claim 111: a touch screen

During the Interview, the Applicant pointed out that the term “field of play” has been used in the specification at col. 1, lines 30-31; col. 2, lines 28-29; col. 2, line 32; and col. 3, lines 47-49. In response, the Examiner agreed to withdrew his objection to the term “playfield.” With respect to the term “indicator,” the Supervisor explained that the term “indicator” could also refer to a pointer, and that the term “display” has a broader meaning. The Applicant agreed to replace the term “indicator” with the term “display.” The applicant, also, agreed to delete the terms “a cursor control switch mechanism/structure,” and “a touch screen” from claims 105 & 111.

Claim 105 has now been deleted, and Claims 83, 84, 88, 96, 100, 109, 110, 111, 114, 115, 116, 126 and 127 have now been amended to reflect the above changes. Accordingly, it is

respectfully requested that the Examiner withdraws his objections to Claims 83-96, 98-104, 107-129 upon the ground that they include new matter limitations.

DRAWINGS

In the Office Action Summary mailed on August 10, 2006, the Examiner objected to the drawings under 37 CFR 1.83(a). During the Interview, the Examiner clarified his objections by explaining that the devices shown in new Figures 25, 27 & 28 do not indicate the feature of the invention related to various levels of difficulty.

In order to comply with the requirement of 37 CFR 1.83(a), the drawings have been amended as follows:

1. New Figure 25 has been revised to indicate a level selection switch on the two devices depicted as a sphere, and a cube.
2. New Figure 27 has been revised to indicate a level selection switch for the LCD device.
3. New Figure 28 has been revised to show a level selection switch for the device that employs an external monitor.

New replacement sheets that reflect the above changes are attached. The Applicant now believes that he is in full compliance with the cited provision of 37 CFR 1.83(a). Accordingly, it is respectfully requested that the Examiner withdraw his objection to the drawings under 37 CFR 1.83(a).

CLAIM REJECTIONS- 35 USC §112, FIRST PARAGRAPH

In the detailed action mailed on August 10, 2006, the Examiner rejected claims 83-96, 98-105, 107-129 under 35 U.S.C. 112, first paragraph, stating, "One of ordinary skill in the art at

the time the invention was made would not be able to make or use the invention as claimed since it is not exactly clear how the new claim language corresponds to the originally filed specification.”

During the Interview, the Examiner agreed that the term “playfield” has been used in the specification. The Applicant agreed to replace the term “indicator” with the term “display” in the new claim language. Further, the Applicant agreed to delete the claim limitations related to cursor control switch, and touch screen controls.

In addition, during the Interview, the Applicant pointed out to the Examiner the following paragraph in the detailed office action, mailed on August 10, 2006, under the heading “Claim Rejections – 35 USC § 103.”

“Merlin lacks in specifically disclosing a liquid crystal display, a cathode ray tube, a digital light processor screen, touch screen and a plasma screen. It would have been obvious to one skilled in the art at the time the invention was made to use any type of display mechanism. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to use any of the aforementioned displays or a cursor control switch mechanism because the Applicant has not disclosed that the particular displays or input devices, are used for particular purpose, provide an advantage, or solve a stated problem” (emphasis added).

The Examiner explained that the rejection of the above listed claims is more related to his objection to new matters rather than to enablement, and agreed to withdraw his rejection under 35 U.S.C. 112, first paragraph provided that the Applicant addresses the objections related to new matter.

The Examiner’s objections related to new matters have now been addressed. Accordingly, it respectfully requested that the Examiner withdraw his rejection under 35 U.S.C., first paragraph.

CLAIM REJECTIONS- 35 USC §112, SECOND PARAGRAPH

In the detailed action mailed on August 10, 2006, the Examiner rejected Claims 83, 93, 96, 100, 111, 126 and 127 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically:

- a) The Examiner rejected claims 83, 100, 111, 126, and 127 for reciting "... and determining if a predetermined objective of the game is met." The Examiner stated that because the claims do not state what the objective is, it is unclear how one can determine when the objective is met. During the Interview, the Supervisor suggested to the Applicant to modify the preamble of the independent claims to include the term "having a predefined objective." Claims 83, 100, 111 and 126 have now been amended to include the term "having a predefined objective in the preamble of these claims.
- b) The Examiner erroneously stated that dependent claim 93 recites the limitation "a control program," while independent claim 83 on which claim 93 depends just states "a control logic" not "a control program." Independent claim 83 was modified during the amendment dated June 10, 2006, to reflect the term "control program."
- c) The Examiner rejected claim 96 for reciting the limitation "the activated keypad switch," stating that there is no antecedent basis for the "activated." Claim 96 has now been amended to provide the required antecedent basis for this limitation.

Because the Applicant has now addressed all the issues identified by the Examiner pursuant to 35 U.S.C. 112, second paragraph, it is respectfully requested that the Examiner

withdraw his rejections of Claims 83, 93, 96, 100, 111, 126 and 127 under 35 U.S.C. 112, second paragraph.

CLAIM REJECTION – 35 USC § 102

In the detailed action mailed on August 10, 2006, the Examiner rejected claims 83-85, 88, 90, 91, 93, 95, 96, 98-104, 107-110 and 126-129, under 35 U.S.C. 102(B), as being anticipated by Parker Brother's "Merlin." During the Interview, the Applicant demonstrated the operation of the Merlin device, and verified that Merlin employs the Texas Instrument TMS1100 micro-controller.

Contrary to the Examiner's statements in the detailed office action mailed on August 10, 2006, Merlin does not anticipate Claims 83-85, 88, 90, 91, 93, 95, 96, 98-104, 107-110 and 126-129 at least because of the following:

- a) Merlin does not assign a first set of binary numbers to playing positions on the playfield,
- b) Merlin does not route binary numbers respective to an activated playing position to each other,
- c) Merlin does not generate a second set of binary numbers from the first set of binary numbers using a Boolean function, and
- d) Merlin does not assign the second set of binary numbers to displays on the playfield to provide visual indications.

Rather, based on the brief description provided in the Merlin instruction manual, and based on information available in the public domain related to the Texas Instrument TMS1100 micro-controller, the Merlin, Magic Square operation is controlled by a fixed relationship between a push button, and a group of indicators such that when a button is activated the

indication states of the indicators are reversed. This operation of the Merlin, Magic Square Game does not require the assignment of a first set of binary numbers to playing positions, the routing of binary numbers to each other, the generation of a second set of binary numbers from said first set using a Boolean function, or the assignment of the second set of binary numbers to the indicators.

The fact of the matter is that Merlin can't possibly generate a second set of binary numbers from the first set of binary numbers, using a Boolean function, as stated by the Examiner, for the simple reason that the instruction set for the Texas Instrument TMS1100 micro-controller does not include any instructions for a Boolean operator that performs a Boolean function on two binary numbers. Which means that Merlin does not contain any structure that generates said second set of binary numbers (color codes) from the first set of binary numbers (operating codes). Further, because of the absence of Boolean instructions in the TMS1100 micro-controller, there was no reason to incorporate operating codes or color codes in the Merlin toy. Which means that the Merlin toy does not contain any structure that assigns a first set of binary numbers to playing positions, that Merlin does not contain any structure that routes binary numbers respective to an activated playing position to each other, and that Merlin does not contain any structure that assigns the second set of binary numbers to indicators on the playfield to provide visual indications.

Further, since the Magic Square game has a playing board that includes nine playing positions, and because the game incorporates nine different relationships between buttons and lights, it is most likely that Merlin uses hard-wired instructions to activate its indicators. Based on information in the public domain, the TMS1000 family of micro-controllers provided the game developer with a special type of instructions called hardwired instructions. These

instructions have advantages in terms of efficient memory utilization and computational speed, specifically for I/O applications. As such, hardwired instructions were the most practical method, suitable for the Magic Square application, to provide the specified fixed relationships between buttons and lights. Which again supports the facts that the Merlin toy does not contain any structure that assigns the first set of binary numbers to playing positions, that Merlin does not contain any structure that routes binary numbers to each other, and that Merlin does not contain any structure that assigns the second set of binary numbers to displays.

The unique and novel concept of employing two sets of binary numbers (operating codes and color or display codes) enables the decoupling of displays from switches, and makes it feasible to vary the relationship between switches and displays using a data driven algorithm.

In the Memorandum of Decision and Order, dated March 5, 2002 (Exhibit "Y"), page 25, the Court asserted:

‘ - - -, the Court has considered the Defendants’ recitation of Merlin and its progeny solely as background information, particularly with regard to the distinction between previous generations of “hard-wired” games, in which a particular button has a predefined and unchanging effect on other buttons, and the Plaintiff’s innovation, which generates unique relations between buttons both between different games and indeed, within each individual game’ (emphasis added).

Accordingly, the Court has recognized that Merlin falls into the category of “hard-wired” games, and is limited by the fixed relationship between buttons and displays. Which means that Merlin does not contain any structure that assigns a first set of binary numbers to playing positions, that Merlin does not contain any structure that routes binary numbers to each other, that Merlin does not contain any structure that generates a second set of binary numbers from said first set, and that Merlin does not contain any structure that assigns the second set of binary numbers to displays.

During the Interview, the Examiner acknowledged that Merlin has a fixed relationship between buttons and displays, and indicated that he will withdraw his rejection of Claims 83-85, 88, 90, 91, 93, 95, 96, 98-104, 107-110 and 126-129, under 35 U.S.C. 102(B).

CLAIM REJECTION – 35 USC § 103

In the detailed action mailed on August 10, 2006, the Examiner rejected Claims 86, 87, 89, 92, 94, 105, 111-125, under 35 U.S.C. 103(a). In view of the Examiner's indication that he will withdraw his rejection under 35 U.S.C. 102(B), the rejection of the above listed claims under 35 U.S.C. 103(a) becomes moot.

CONCLUSION

The Applicant has addressed all the issues raised in the detailed Office Action mailed on August 10, 2006. Accordingly, it is respectfully submitted that this reissue application is ready for issue.

SUBSTANCE OF INTERVIEW, DATED OCTOBER 23, 2006

A personal interview took place on October 23, 2006, and was conducted by the Examiner, Mr. Alan Cross, and the Examiner's Supervisor, Ms. Xuan Thai. During the interview, the Applicant discussed with the Examiner, and the Examiner's Supervisor the various objections and rejections included in the detailed office action mailed on August 10, 2006. Further, the Applicant demonstrated to the Examiner and the Supervisor a computer program that simulates the 4x4 and 8x8 embodiments described in the '037 patent. This simulation program employs the left click of a computer mouse (i.e. momentary switch) to activate a selected playing position. Further, the computer program implements the feature described in original claims 8 and 28 of the '037 patent, which vary the number of colors or images playable by the device.

Also, the Applicant demonstrated to the Examiner and the Supervisor the operation of the Magic Square game of the Merlin toy, and verified that Merlin employs the Texas Instrument TMS1100 micro-controller. In addition, the Applicant discussed with the Examiner, and the Examiner's Supervisor the substance of certain Court decisions included in the Memorandum of Decision and Order, dated March 5, 2002 (Exhibit "Y"). Said decisions are related to the Boolean function described in the '037 specification, and the operation of the Magic Square game of the Merlin toy. During the interview, the following was agreed to:

- a) The Examiner stated that he will reconsider his rejection under 35 U.S.C. 251 to the amendment to the specifications related to items 2, 8, 10 & 11.
- b) The Examiner agreed to withdraw his rejection under 35 U.S.C. 251 to the amendment to the specification related to item 9, "EXCLUSIVE NOR."
- c) The Examiner stated that he will reconsider his rejection under 35 U.S.C. 251 to the amendment to the specifications related to item 12.
- d) The Examiner agreed to withdraw his rejection under 35 U.S.C. 251 to the first amendment to the specification included in item 14 provided that the Applicant deletes the term "momentary switch" from the amendment. The Examiner stated, in substance, that although the '037 invention could operate with a momentary switch, the original '037 specification does not include the term "momentary switch."
- e) The Examiner agreed to withdraw his rejection under 35 U.S.C. 251 to the second amendment to the specification included in item 14 provided that the

Applicant modifies the amendment to the specification to reflect the language used in original claims 8 and 28.

- f) The Examiner agreed to withdraw his objection to the term “playfield.”
- g) The Applicant agreed to replace the term “indicator” with the term “display” in all the claims.
- h) The Applicant agreed to delete the limitations “a cursor control switch mechanism/structure,” and “a touch screen” from the claims.
- i) The Examiner agreed to withdraw his objection to the drawings under 37 CFR 1.83(a) provided that the Applicant revises the new drawings to reflect the feature of the invention related to level control switch to select a difficulty level of play.
- j) The Examiner agreed to withdraw his rejection under 35 U.S.C. 112, First Paragraph, provided that the Applicant addresses the new matter issues.
- k) The Applicant agreed to modify the claims to address the claim rejection under 35 U.S.C. 112, Second Paragraph.
- l) The Examiner agreed to withdraw his claim rejections under 35 U.S.C. 102 (Anticipation by Parker Brother’s “Merlin”).
- m) Both the Applicant and the Examiner agreed that claim rejections under U.S.C. 103(a) are now moot.



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